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*Influence of the Weakness of Accent-stress on Phonetic Change
in French.*

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The science of phonetics is still so new that it may seem premature to suggest the possibility of a partially deductive method of exposition, but if it is to be used in teaching beginners in a language how to pronounce, how much easier the task would be if we could begin by stating certain general characteristics which color the whole phonetic field of that language so that the peculiarities of every sound in it, and the rules of phonetic change might be largely explained by and remembered through them. That this will some day be done, I firmly believe, and I wish here to suggest how one such characteristic of French may be used in this way.

The most prominent distinguishing quality of a language considered as it were acoustically, merely as a series of sounds is what I should like to call the length and height of the speech wave; that is the frequency of occurrence and the more or less vigor of utterance of the stress or accent which may be called the sentence accent. Where the listener is at such a distance that the various sounds are blurred this speech wave is still perceptible and will tell a practised ear what language is being spoken.

Evenness of utterance and the weakness of the stress laid on the accented syllables are the most distinguishing features of French speech. It has a soft uniformity which is delightful music to a French ear, but which must seem flat and monotonous to those whose mother-tongue is one of the strongly accented languages.

If we divide French speech into sounds, we come upon another very marked peculiarity, the position of the word accent on the last syllable of the word, unless that last syllable contain a so-called mute *e* when that accent is on the penult. In making this statement, I know that I contradict SWEET who places the

French stress-accent on the first syllable of the word, but I believe the great majority of philologists are on my side, and that SWEET's statement arises from a confusion of stress with the heightening of the pitch which is often heard in the first syllable of French words.

It has long seemed to me that these two phenomena, the weakness of the French accent and its position at the end of words, were connected, and that this connection is an instance where a peculiar phonetic characteristic of a language has determined a law of phonetic change in that language.

Any one who listens to the speech of the natives of France, Spain and Italy notices the very weak stress in French, the somewhat stronger stress in Spanish and the very much stronger stress in Italian. Now what is it that determines the force of this stress? Obviously the violence of the action exerted by the muscles of the chest. The stronger the action exerted upon the lungs, the more violent and the more prolonged is the consequent rush of air through the throat and mouth. But there will be a very important concomitant. The other muscles used in speech will also be exerted in proportion to the strength of the stress, just as in dealing a blow the fist is closed tightly in proportion to the violence of the effort exerted by the arm, or as the fencer tightens his grip on the sword as he lunges, so here all the muscles concerned in speech will be more forcibly exerted if the chest muscles are so exerted. The force of the stress on the accented syllable may be, therefore, said to measure the force of the muscular contraction expended in uttering that syllable and it is seen at once that this nexus must have a large influence on phonetic change.

As I said before, the different force of the so-called tonic accent in French, Spanish and Italian is very marked. The French accent is so slight that speech often seems to flow like an even stream; Spanish has a more distinctively perceptible accent, and Italian has a very strong and emphatic stress on the tonic corresponding to the violent gestures and excitable temperament of the speakers. In southern France we have a distinctly stronger stress than north of the Loire, forming, as it were, an intermediate stage between French proper and Spanish.

Now along with this varying intensity of accent-stress we find a corresponding variation in the post-tonic syllables. In Italian the one or two syllables following the tonic in the Latin word are

best preserved. Thus note Italian *croce, luce, specolo, popolo* and Spanish *cruz, luz, espéjo, pueblo*, and the strong tendency in Spanish to utter indistinctly or drop entirely the post-tonic syllables in rapid utterance.

In the south of France the so-called mute *e* is still distinctly pronounced and a Provençal can be at once detected by his way of saying *une petite fille*. Finally north of the Loire no post-tonic syllable is heard except after a combination of consonants which necessitates a slight vowel on the opening of the mouth as in *humble, simple* or when a slight *r* vowel occurs as in *vaincre, gendre*.

This coincidence between the strength of stress on the tonic and the importance of post-tonic syllables is one of the most striking facts in the acoustic make-up, so to speak, of the romance languages and a connection between the two phenomena seems *a priori* not improbable. But their relation is not clear and the two facts have been regarded as separate or at least no attempt has been made, to my knowledge, to go behind them in search of a common cause.

In considering the tonic stress-accent an important part of the function it performs is overlooked; it is solely considered as an element in speech, but it is at the same time a part of a most essential life process, that is of breathing.

Speech is accompanied by a continued expiration, the amount of air expelled during a given short interval of time varying with the strength of the muscular contraction of the chest, and the most natural way for one who hears words without understanding how to divide them, is to separate them, as it were, into waves of speech, determined by the separate expirations of the speaker. Consider now how this speech-wave will differ in languages with a strong or weak accent-stress. Where the stress is strong and the concomitant muscular contraction comparatively violent, the expiration will be more forcible and more prolonged; that is, a longer time will elapse after the accent-stress begins before the extra outward puffing of air will be over. This fact in the case of stress-accent which occurs at or near the end of every speech-wave must affect the post-tonic syllables. Whether the accent be strong or weak, it may be said that in natural unaffected speech the muscular contraction that goes with the last tonic accent of the speech-wave empties the lungs so far that any further expiration would be conscious and unnat-

ural. After the expiration which goes with the last tonic accent is spent, inspiration or breathing in immediately follows, and with the succeeding expiration a new speech-wave begins. As speech is impossible during inspiration, there will necessarily be a break in the utterance if any unaccented syllables occur in our first speech-wave after the last accent-stress is spent. But a break of this kind within a word would instinctively be shunned, and where, as in French, owing to the weakness of the accent-stress, the breath of the speech-wave ceased almost entirely at the close of the last tonic syllable, the tendency would be very strong to end the last word of the speech-wave with the syllable carrying the tonic accent, while where the stress accent was strong, one or two post-tonic syllables would be easily pronounced with the remnant of the puff of the tonic syllable, French is in a sense continued Latin; but it is Latin spoken by a people who acquired it first as a foreign language and would at once change the sounds and the accent stress in accordance with their inborn tendencies. From what we see in Italian, which is continued Latin spoken by the people among whom Latin originated, it is extremely probable that the stress-accent in Latin was a very strong one, the people of the northern half of Gaul, supposing their stress-accent to have been weak, would very soon shorten up the post-tonic syllables of any word occurring at the end of a speech-wave, and once the words were shortened in this position, the short form being doubtless in accord with the build of the words of their own native tongue would quickly prevail and become the only one.

We have abundant evidence that this shortening took place in the earliest period of the French language. In words accented on the ante-penult in Latin, the French from the earliest period of which we have any record dropped the penult leaving only a so-called mute *e* for the last syllable, even though the Latin penult was sometimes still written and though the final sometimes appears as an *a* or *o*.

Thus the only remnant of the Latin post-tonic vowels was the so-called mute *e*, which, as time went on, was less and less heard, until in modern French it is not heard at all in the vast majority of words in which it is still written. Even where a short post-tonic syllable is heard in correct French it is not audible in the speech of the common people. Thus the Paris workman says: *Qual' sons, not' patron*.

If it does not seem too fanciful, I will mention in closing one or two other points where phonetic change may have been affected by the nature of the accent-stress. Does not the comparative emphasis of pronunciation which goes along with the strength of the accent-stress account for the double shut consonants in Italian *fatto, detto, tutto* as *abbate repubblica* compared with Spanish *hecho, dicho, todo* and for the persistence in the surd dental in Italian *nata* its softening in Spanish *nada* and its dropping in French *née*? Again the disappearance in modern French of the vowel immediately preceding the tonic as in *chance* from *cheance*, *rond* from *reond* might be due to the weakness, as it were, of French utterance.

Of course this explanation is not presented as a rigorous proof, but merely as a working theory which facilitates the grouping of facts.